You have crash landed on a strange planet.

**CONSTRUCT: Add a counting wheel and light sensor.**

A counting wheel and light sensor can keep track each time the wheel turns or rotates. Then you will combine the rotations times the tire circumference to find the distance the RoboRover moves. Try it and you will see how it works!

**You will need these parts.**

![LEGO parts](image)

**LEGO Parts:**

- one light sensor
- two 16-stud beams,
- two green 40-tooth gears,
- one bushing,
- two connector pegs with knobs,
- one 12-stud axle,
- two 2x4 yellow plates with holes,
- one black skid plate,
- one yellow pulley wheel.

Make sure you have the Tracker robot, too! If you don’t, go to the Training Missions Constructopedia pages 4-7 to build it.
First, build the counting wheel.

Then attach the counting wheel to the robot as shown here.
You have crash landed on a strange planet.

The Tracker model with a counting wheel and light sensor added to it makes a great RoboRover. Add the touch sensor to port 2 so you can have a quick switch to stop both motors.

Use the long wire with the touch sensor and attach it to port 2. The light sensor is attached to port 1.

The light sensor tracks the yellow and black colors of the counting wheel as the tire rotates.

You can use the touch sensor to stop the motors when the robot reaches the end of the Terrain sheet.

The tire on the motor turns the gear holding the yellow and black counting wheel. The gear and the tire are the same circumference so they turn the same distance at the same time (excluding slippage).